

**Amendment and Response**

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Serial No.: 10/052,032

Confirmation No.: 1581

Filed: 16 January 2002

For: PRESSURE SENSITIVE ADHESIVES HAVING QUATERNARY AMMONIUM FUNCTIONALITY,  
ARTICLES AND METHODS**Remarks**

The Office Action mailed 8 February 2005 has been received and reviewed. Claims 1 and 9 having been amended, claim 2 having been cancelled, and claim 52 having been added, the pending claims are claims 1 and 3-52. Reconsideration and withdrawal of the rejections are respectfully requested.

**The 35 U.S.C. §102 Rejection**

The Examiner rejected claims 1, 6-11, and 15 under 35 U.S.C. §102(e) as being anticipated by Chang et al. (U.S. Patent No. 2003/0032352 A1). Claim 1 having been amended, this rejection is rendered moot. This should not be considered to mean that Applicants agree with the rejection and the Examiner's comments. In fact, Applicants reserve the right to pursue these claims and present arguments in favor of patentability in a continuing application.

**The 35 U.S.C. §103 Rejection**

The Examiner rejected claims 1-15, 25, 27-33, 44, and 50 under 35 U.S.C. §103(a) as being unpatentable over Chang et al. (U.S. Patent No. 2003/0032352 A1). This rejection is respectfully traversed.

Chang et al. teach polymer binder compositions that are triggerable and water-dispersible or water soluble (paragraph 0001). The binder compositions are for use in fiber-containing fabrics and webs that are used in flushable or water-dispersible personal care products (e.g., wet wipes).

There is no teaching or suggestion that such polymers and compositions would be pressure sensitive adhesives. Although the Examiner equated the binder of Chang et al. to a pressure sensitive adhesive (PSA), Chang et al. is silent on the PSA characteristics of the binder (as acknowledged by the Examiner at page 3 of Office Action). Furthermore, it is respectfully submitted that Chang et al. teach away from the binder being a PSA.

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At page 3 of the Office Action, the Examiner cited to paragraph 0112 of Chang et al. and the discussion of reducing tack as evidence that the binder is inherently tacky (and inherently has PSA characteristics). It is respectfully submitted that this statement does not teach what the Examiner suggested. What is referred to in paragraph 0112 is not "PSA tack" but a grabby feel ("Suitable detackifiers include any substance known in the art to reduce tack between two adjacent fibrous sheets treated with an adhesive-like polymer or any substance capable of reducing the tacky feel of an adhesive-like polymer on the skin.").

PSA tack is described by Donatas Satas, *Handbook of Pressure Sensitive Adhesive Technology*, 2<sup>nd</sup> edition, p. 269: "in the case of pressure-sensitive adhesives, tack can be described as the property whereby the adhesive will adhere tenaciously to any surface with which it comes into contact under light pressure." A PSA is defined at page 6, lines 7-14 of Applicants' specification as follows:

"... a viscoelastic material that displays tackiness and adheres well to a wide variety of substrates after applying only light pressure (e.g., finger pressure). One well known means of identifying pressure sensitive adhesives is the Dahlquist criterion. This criterion defines a pressure sensitive adhesive as an adhesive having a 1 second creep compliance of greater than  $1 \times 10^{-6}$  cm<sup>2</sup>/dyne as described in Handbook of Pressure Sensitive Adhesive Technology, Donatas Satas (Ed.), 2<sup>nd</sup> Edition, p. 172, Van Nostrand Reinhold, New York, NY, 1989. . ."

While Chang et al. disclose a tacky binder, the mere property of tack does not necessarily mean that the binder includes a polymer with viscoelastic properties suitable to be a PSA (e.g., for a purpose of adhering to skin).

It is also respectfully submitted that all such statements need to be read in the context of the entire disclosure. By doing so, it is apparent that Chang et al. teach away from Applicants' invention. For example, in paragraph 0016, Chang et al. refer to "flushable or water-dispersible" products. Such products are not typically pressure sensitive adhesive products. Also, in paragraph 0016, Chang et al. refer to the ability to provide "(7) improved tactile properties, and (8) promote good cleaning by providing a balance between friction and lubricity on the skin (skin

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glide)." For such products, pressure sensitive adhesive properties would not be desirable.

In alleging that Chang et al. teach a PSA, the Examiner also alleged that "it would have been obvious in the art to incorporate a tackifier to a binder composition" and that it "directly follows that a resultant binder composition must naturally have a PSA characteristic" (page 4 of Office Action). This is not necessarily true. Simply adding a tackifier to a polymer does not necessarily produce a PSA; rather, a tackifier is added to an elastomer to provide or improve pressure-sensitive adhesive properties. Again referring to Donatas Satas, *Handbook of Pressure Sensitive Adhesive Technology*, 2<sup>nd</sup> edition, p. 168, it is stated that "A resin is described as a tackifier if, by adding it to an elastomer the resulting composition has the property of a pressure-sensitive adhesive."

The Examiner also alleged that the use of poly(alkylene oxide) monomers in a binder is obvious (see, e.g., amended claim 1). However, there is no teaching or suggestion in Chang et al. that such monomers can be used to advantage in a pressure sensitive adhesive composition that includes a pressure sensitive adhesive polymer functionalized with quaternary ammonium functional groups that are covalently bonded to the polymer. In particular, there is no teaching or suggestion that such compositions could inherently possess antimicrobial characteristics (e.g., claim 10).

Furthermore, there is no teaching or suggestion in Chang et al. that the binder could be used in a product that could adhere to wet skin (e.g., claim 9). In fact, Chang et al. teach away from a product that would be useful in a wet environment (e.g., when in contact with wet skin) because of the desire for the composition of Chang et al. to be triggerable and water-dispersible or water soluble.

The Examiner also alleged that "...it is conventional in the art to apply a binder composition to a surface of a backing..." While this may be true, the binder of Chang et al. is an integral part of the backing, not a coating on the surface. Furthermore, the Examiner referred to paragraph 0010 of Chang et al. for teaching that the binder can be used in articles for "medical

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care”; however, the “medical care” reference is to “flushable personal care products, particularly wet wipes for personal use” which contain no PSA and have no adhesive properties. Having the properties of being flushable and dispersible teaches away from use in medical tapes and dressings for which wet strength and cohesive properties are desirable.

**Reference Cited as being of Interest**

At page 6 of the Office Action, the Examiner alleged that U.S. Patent No. 4,356,229 (Brodnyan et al.) “appears to be indistinguishable from the present PSA composition.” In contrast to the present invention, however, this patent discloses an ammonium salt of a polymer, not a polymer with covalently bound quaternary ammonium groups.

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**ARTICLES AND METHODS****Summary**

It is respectfully submitted that the pending claims 1 and 3-52 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for  
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By

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**CERTIFICATE UNDER 37 CFR §1.8:**

The undersigned hereby certifies that the Transmittal Letter and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to **Mail Stop Amendment**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 7th day of June, 2005, at 4:00 p.m. (Central Time).

By: Rachel Raasch-GebhardtName: Rachel Raasch-Gebhardt